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ABSTRACT

This report is based on the conviction that improvements in the quality of education must focus on the school as the unit of change. Through a review of the qualitative research literature on school improvement and the more quantitative literature on school effectiveness, a conceptual framework that identifies generic factors that determine school effectiveness is formulated. Drawing from the literature, detailed definitions, and indicators relevant to Sub-Saharan Africa are presented for each of the factors. Using examples the paper outlines how the conceptual framework of factors, definitions, and indicators can be used in the region to plan improvements in the quality of primary education, to conduct situation analyses and sector work on school quality, and to monitor and evaluate educational reforms. The paper concludes with an assessment of the strengths and weaknesses of these materials and a reminder that they must be adapted locally if they are to prove useful in improving the quality of education for Africa's children. The document has six chapters, a bibliography, and four annexes. The chapters include: (1) "Introduction"; (2) "The Conceptual Framework: Problems, Definitions, and Assumptions"; (3) "Using the Conceptual Framework for Planning How to Improve the Quality of Primary Education"; (4) "Using the Conceptual Framework for Situation Analyses and Sector Work on the Quality of Primary Education"; (5) "Using the Conceptual Framework for the Monitoring and Evaluation of Educational Reforms"; and (6) "Conclusion." The Annexes include: (1) "Factors that Determine School Effectiveness"; (2) "Indicators of Effective Primary Schools in Zimbabwe"; (3) "Materials for a Sector Study on the Quality of Primary and Secondary Education in Madagascar"; and (4) "Profile of a Primary School in CISCO Antananarivo-Ville, Madagascar." Contains 15 pages of references. (EH)

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Technical Note No. 14
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Planning and Monitoring the Quality of Primary Education in Sub-Saharan Africa

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Planning and Monitoring the Quality of Primary Education in Sub-Saharan Africa

Ward Heneveld

Technical Note No. 14
Human Resources and Poverty Division
Technical Department
Africa Region
The World Bank
Washington, D.C.

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Abstract

Planning and Monitoring the Quality of Primary Education in Sub-Saharan Africa takes as its starting point the conviction that improvements in the quality of education must focus on the school as the unit of change. Through a review of the qualitative research literature on school improvement and the more quantitative literature on school effectiveness, a conceptual framework that identifies generic factors that determine school effectiveness is formulated. Drawing from the literature, detailed definitions and indicators relevant to Sub-Saharan Africa are presented for each of the factors. The paper then describes, with some examples, how the conceptual framework of factors, definitions, and indicators can be used in the region to plan improvements in the quality of primary education, to conduct situation analyses and sector work on school quality, and to monitor and evaluate educational reforms. The paper concludes with an assessment of the strengths and weaknesses of these materials and a reminder that they must be locally adapted if they are to prove useful in improving the quality of education for Africa's children.

Acknowledgments

Planning and Monitoring the Quality of Primary Education in Sub-Saharan Africa has been produced as part of an Africa Technical Department Regional Study on Managing Schools for Effectiveness. The design and content of this work owes a great deal to the encouragement and counsel of colleagues in the World Bank and to people working on the *How Schools Improve* study led by Per Dalin, Director of IMTEC, the International Learning Cooperative. Various pieces of the study have been reviewed and commented upon by individuals in the international education development community.

The definitions and indicators of factors determining school effectiveness which are the heart of this paper would not exist were it not for the work of Helen Craig, the Research Assistant who helped in the literature search and organized the multitude of notes we accumulated. She and Othello Gongar, who conducted a review of how well World Bank project designs attend to these factors, worked closely with me through much of 1992-1993 in preparing the material that has been used to formulate this paper.

Finally, I know the materials in this report can be useful in Sub-Saharan Africa because of the many African colleagues and educators who have allowed me to share the materials with them. Senior educators from The Gambia, Malawi, Nigeria, Tanzania, and Zambia and World Bank Task Managers for these countries used the materials in an EDI seminar in Lusaka in early 1993, and the definitions and indicators of effective schools have since been used to inform planning and research activities in Guinea, Kenya, Madagascar, Senegal, and Uganda. To these teachers, headmasters, managers, and education specialists I am particularly grateful.

This said, the report is a work in progress. Another report that compares the factors identified in this paper with past Bank experience in planning projects to improve educational quality is under preparation, and applications of the materials continue in many of the countries cited. Experience with using these materials in the field will lead, I hope, to refinements in the materials and to the sharing of examples of how the materials have been used successfully to improve the quality of education in Sub-Saharan Africa.

1

Introduction

Primary education in Africa is in crisis. Rapid enrollment growth and economic decline have badly damaged the quality of schooling. Recently, participation rates in Sub-Saharan Africa (SSA) have started to decline in many countries as population outstrips society's ability to provide schooling and as the quality of education deteriorates below a level that many parents will accept. Still, population increases have caused total enrollments in basic education to continue to grow. All but five countries in the region (Angola, Madagascar, Mozambique, Nigeria, and Somalia) registered enrollment increases between 1985 and 1990. If growth is to continue and participation rates are to increase, the quality of education has to be raised. Many governments recognize this need, but most governments and donors have sought solutions to the crisis in educational quality through educational policy reform and investments in centralized national programs that will support reform. This approach will not succeed as long as reform efforts do not recognize that each school is a largely self-contained, autonomous social system, and that, within schools, individual classrooms further insulate the learning process from outside influence.

Approaches to educational change that focus on the school as the unit of change are needed. This study addresses this need. There are two primary objectives of this document:

- To identify the generic factors that determine school effectiveness (through a review of relevant research literature);
- To suggest ways to use this synthesis of the general factors in analyzing, planning and evaluating education reform activities that focus on the school

The pursuit of these objectives is full of dangers because it depends on an understanding of what educational quality and school effectiveness means, and these terms defy exact and common definition. "Quality" in primary education has to do with what is taught, how it is taught, to which children, and in what kind of setting. "Effectiveness" refers to the outcomes of education, to what children learn. This said, there are as many specifications of quality and effectiveness as there are interest groups in education (Hawes and Stephens 1990, p. 9). On quality, this paper adopts the point of view first defined by C.E. Beeby (1979) that it is possible to know when the quality of education improves and that, therefore, what is sought is "qualitative change." Defining "effectiveness" is a bit easier. Most of the literature uses student test scores as a measure of the knowledge and skills acquired through schools, but there are skills, attitudes, and values that such tests do not measure but which schools seek to give their students. In this paper, four kinds of student outcomes have been defined as indicators of effectiveness (see Annex 1, p. 31). They include academic achievement, social skills, economic success after school, and participation in school through to completion. This last indicator has been included as a measure of effectiveness specifically for Africa because of the disturbingly high repeater and dropout rates in almost all countries of the region. In general, the expectations for improved quality and effectiveness of primary education in Africa will be fulfilled when there is "an improvement in the environment in which the student work(s) with the aids to learning provided for that purpose by the school system, and (when) this improved environment (has expressed) itself as detectable gains in the knowledge, skills, and values acquired by students (Ross and Mahlck, 1990, p.6).

The paper is organized as follows: Chapter 2 discusses the problem of schooling conditions in Sub-Saharan Africa and introduces the reader to the assumptions and conceptual

framework that provide the substance for, and guide, what follows. Chapter 3 outlines an approach to using the framework as a planning tool to determine the conditions that a country wishes to achieve in its schools, given their current state. Chapter 4 describes how the conceptual framework can be used to analyze the quality of individual primary schools in Africa and how these individual analyses can be used to formulate a more general picture of school quality in a given education system. Chapter 5 builds on the definitions and assumptions described in Chapter 2 to show how the framework can be used to monitor and evaluate the implementation of activities aimed at improving the effectiveness of African primary schools. The definitions and indicators for the sixteen factors that determine school effectiveness (Annex 1) provide the content for each of these sections on methodology. The report concludes with observations about the applicability of the suggestions presented in Sub-Saharan Africa.

These guidelines for planning and monitoring the quality of education are *not* prescriptive. Individuals involved in primary education in Sub-Saharan Africa will be disappointed if they look here for a direct answer to how to make primary education more effective. Rather, what is presented are a list of ingredients (the definitions and indicators drawn from research around the world) and an identification of the kinds of uses to which they may be put (assessment, planning, evaluation). The reader must be his or her own cook, choosing the ingredients (and changing them as desired) and planning their use according to the needs and sophistication of people in the concerned education system. This text offers examples and suggestions which do not tell people what to do but help them be creative about the use of the definitions and indicators of factors that determine school effectiveness.

2

The Conceptual Framework: Problems, Definitions, and Assumptions

Most primary schools in Sub-Saharan Africa suffer from very poor conditions for learning: dilapidated or half-completed buildings, insufficient desks, overcrowded classrooms, few or no learning materials, poorly educated and motivated teachers, and choral recitation as the dominant mode of instruction. The World Bank's 1988 Policy Study *Education in Sub-Saharan Africa: Policies for Adjustment, Revitalization, and Expansion* concluded that "the main educational issues in Africa today are the stagnation of enrollments and the erosion of quality," both of which are strongly related to these poor conditions in schools. Parents are not satisfied to send their children to dysfunctional schools, and children will not learn if the conditions for learning do not exist. If anything, the conditions in African primary schools are worsening in the context of continuing economic decline and political instability.

Recent attempts at improving the quality of African primary education, including those funded by the World Bank, have tended to rely on national educational policy reforms that build on the rich research findings of the last fifteen years which link educational inputs to student achievement. In many countries, major policy reforms have been carried out that change the number of years of primary schooling, the language of instruction, the management structure of the education system, the availability of textbooks and in-service teacher training, or the subjects taught. Most of the national reform efforts seem to assume that a national policy and the delivery of inputs to schools will be sufficient to change what teachers do with children in classrooms. However, the impact on children of changes that depend on policy and ignore the internal life of schools is usually limited.

Investments have followed the policy initiatives. School-construction programs have been funded, recently with expectations of community input; textbooks and teacher materials have been formulated, published and distributed in pursuit of curriculum changes or for a new language of instruction; training programs for teacher upgrading and management improvement have been designed and implemented, usually in short residential sessions away from one's worksite. The results in terms of effective implementation — the classroom use of new materials, changes in teacher behavior, and improvements in academic achievement — have been disappointing.

In a companion effort to the development of the conceptual framework and suggestions in this paper, the designs of twenty-five current World Bank projects in Sub-Saharan Africa that aim to improve the quality of primary education have been reviewed to see how they compare with the factors in these guidelines (report forthcoming). A simple tally of the frequency with which the different factors have been addressed by project components reveals that supportive inputs from outside the schools are addressed in almost all projects, but school climate and teaching and learning process factors were considered in only one or two projects. The summary of the number of projects that include different components is in Table 1 on page 4.

The mix of inputs to the school that was found in most projects represents significant progress for the World Bank. In the 1960s, investments were almost exclusively for civil works. During the 1970s and 1980s, as school effectiveness research identified textbooks, teacher training and supervision, and community support

Table 1. Number of World Bank Projects Addressing School Effectiveness Factors (N=25)

Inputs to the School	*Number of Projects*
Community Support	20
Supervisory Support	20
Teacher Development	23
Textbooks and Materials	23
Facilities	19
Factors inside the school	
Effective Leadership	16
In-School Teacher Development	8
Local Flexibility and Autonomy	14
School Climate factors	2
Teaching/Learning Process	1
Assessment/Examination	11

as important determinants of student achievement, project designs included a richer array of inputs. Now, demand is growing for this richer array to be more effectively used at the school level (Operations Evaluation Department, World Bank 1993). Current trends towards the decentralized management of education, greater attention to better classroom teaching techniques, and national assessments that provide feedback directly to schools and communities are all signs that policy continues to evolve based on clients' demands and on what is known about effective education.

These guidelines offer an approach to improving educational reform policies and investments by revising the assumptions underlying current methods of planning and evaluation. First, the assumption that policy is an effective instrument for educational change must be tempered by the realization that the very complex links between policy and what teachers and school heads actually do with children reduce significantly, and can eliminate, the impact of policy on classroom practice. Second, the assumption that selecting the right mix of inputs will necessarily lead to changes in student performance must make room for the realization that the unique educational process in individual schools contributes significantly to what students learn. Finally, the implicit assumption in most reform programs that facilities and equipment, curriculum, teachers' behavior, and system management practices are relatively independent of each other in their impact on student performance must be replaced by the understanding that all these factors come together within the school to form a social system that conditions the learning that can take place there. In sum, it is the central role of the individual school, in all its complexity, that needs more attention in the planning and evaluation of educational quality in Sub-Saharan Africa.

To summarize, the guidelines for improving educational quality that are presented here are based on these assumptions:

- Policy is a necessary but fairly blunt instrument in the improvement of educational quality.
- The school and the class, not teachers nor the infrastructure for managing the system, are the key units of analysis in planning and intervening to improve the quality of education.
- The school-as-social-system, the interaction amongst all of the elements of a school, has a significant influence on student learning beyond that provided individually by the inputs to a school.

Two additional beliefs have guided this work. First, the significant body of research on school effectiveness and school improvement has applicability to schooling in Sub-Saharan Africa, even though most of the research is on industrial countries. The conceptual framework produced by this study for use in Sub-Saharan Africa is based on a review of this research (see Bibliography). So far, the limited research on school effectiveness and school improvement that has been done in developing countries confirms this applicability. This is not surprising since the basic elements of a school — teachers, pupils, prescribed content, an organized timetable, a

building — are accepted in Africa as in the rest of the world.

Second, in assuming that the links between school characteristics and pupil outcomes provided by the research will replicate themselves in Africa, these guidelines largely ignore pupil outcomes. We believe that if schools can be changed to be more like what research findings say they should be, improvements in student performance will follow. These guidelines leave to future research the verification of connections between changes in schools that the guidelines might help to bring about and their impact on student outcomes. National assessments of education that include specific consideration of a country's own definitions of the important factors could provide a powerful tool for this research.

The basis for the approaches to analysis, planning and evaluation outlined here is a conceptual framework that has been selected from the research literature that characterizes effective schools. The definitions of factors in the conceptual framework have been selected with as much of a recognition of the context of African primary schools as could be built into them (Annex 1). However, because they are entirely selected from published international research results, they tend toward being generic. The reader should not be misled into thinking that the factors, definitions and indicators defined project an ideal school type for Sub-Saharan Africa.

The framework consists of an interrelated network of sixteen factors, organized into four groups, that influence student outcomes. The factors and their inter-relationships are presented in the systems diagram in Figure 1. The "Supporting Inputs" flow into each school where the "Enabling Conditions," "School Climate," and "Teaching/Learning Process" combine to produce student outcomes. The student outcomes are characterized in four ways — Participation, Academic Achievement, Social Skills, Economic Success — that go well beyond the narrow but emphatic reliance on student testing that prevails in most African countries. These four outcomes are defined briefly and generally on the last page of Annex 1, but they are not dealt with further in these guidelines.

The factors determining school effectiveness are imbedded in a context that includes institutional, cultural, political and economic factors. The institutions surrounding the education system, including national Ministries of Education, will condition how the education system functions. Cultural values and practices also condition how the sixteen factors affect student outcomes, and political and economic conditions significantly influence how the education system operates and what inputs it receives. While the contextual factors also act directly on children, they have been considered exogenous factors in the conceptual framework and are not dealt with in detail here.

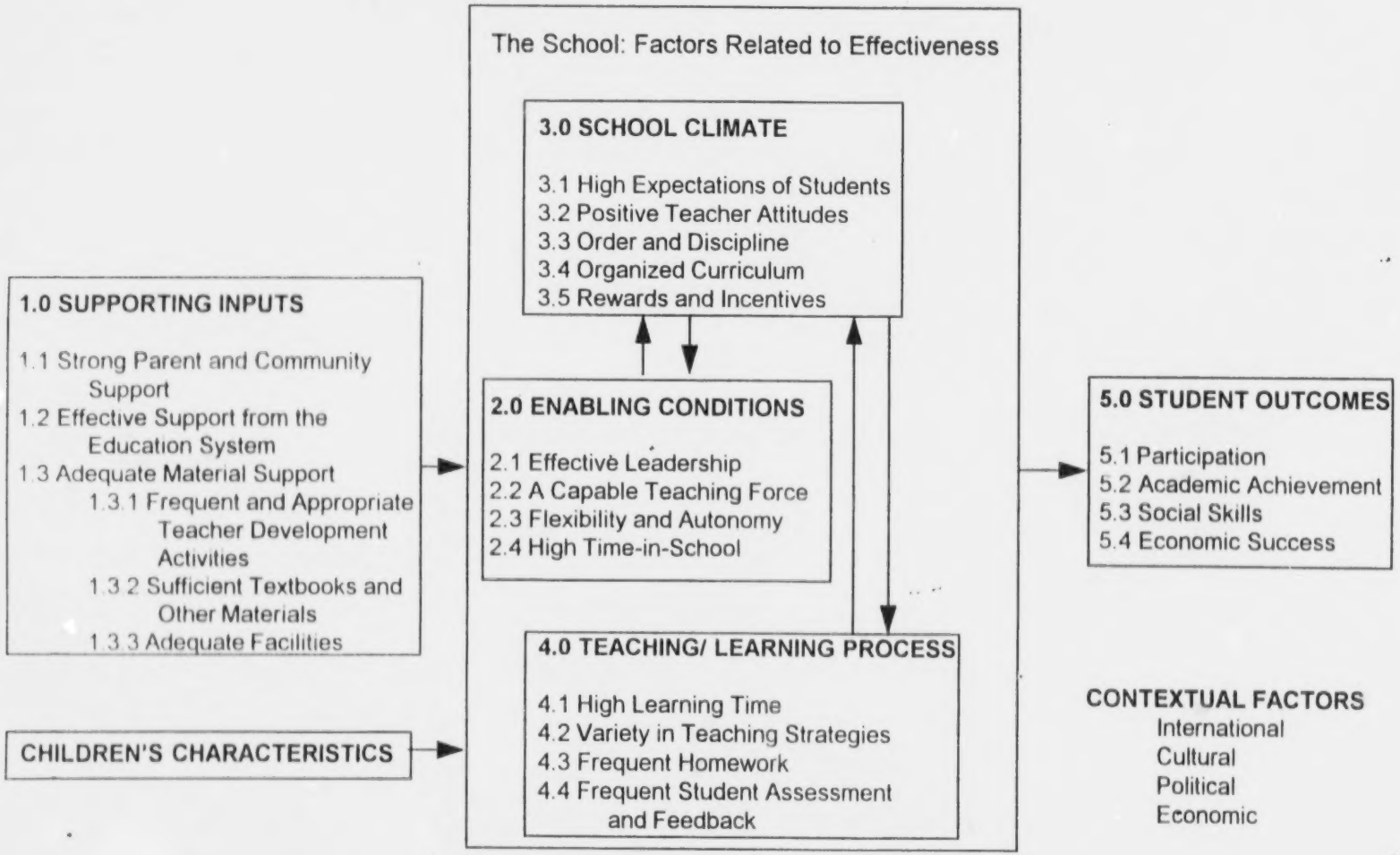
From the literature review, definitions have been identified for each of the sixteen factors, and generic indicators have been identified for each definition (Annex 1). For example, one of the "Enabling Conditions" is "A Capable Teaching Force." A capable teaching force is defined by (with the indicators in parenthesis):

- The teachers' knowledge (demonstrated subject mastery);
- Their experience (more than a year teaching);
- Their stability (years in the school);
- Their full-time-ness (hours/day in the school).

Among the sixteen factors, "A Capable Teaching Force" is different from "Positive Teacher Attitudes" which is one of the factors determining "School Climate."

While the school effectiveness factors are considered applicable *in the abstract* to African primary schools, the selection and formulation of the definitions and the indicators have been made with the African context in mind. They have been reviewed and revised by African educators, international educators with significant experience

Figure 1: Conceptual Framework: Factors that Determine School Effectiveness



in Africa, and staff who work on education at the World Bank. Still, the reader must remember that the development of this material has been full of potential for error. First, the research results are not definitive on any of the factors, even in industrial countries; and selections have been made from these results about which of the significant factors should be included for Africa. Second, the definitions and indicators must certainly reflect some of the biases of the formulators. For example, factors in the home affecting schooling are ignored in this approach, and soft factors like "leadership," "school climate," and "variety in teaching strategies" are stressed. Third, the apparent gap between the conditions in African primary schools and the definitions have made some commentators wonder whether the factors are at all relevant to schools in Africa. For example, is it even possible to talk about "a capable teaching force" in a country where 80 percent of the teachers have not had training to be teachers and where their salaries provide much less than a living wage? Given these possibilities for bias and error, the reader is reminded that planners and researchers must choose their own definitions and indicators for factors and decide on how to use them in a given national or local context.

3

Using the Conceptual Framework for Planning How to Improve the Quality of Primary Education

The planning of educational reform using the conceptual framework requires two steps. First, the definitions and indicators need to be translated into a concrete and realistic statement of the conditions that are sought for the system's primary schools. Then, the implementation processes that will bring about these conditions in most schools have to be planned, including the specification of needed resources, changes in organizational structure, and time required. How an education system may go about these two steps depends on its political openness and the time and resources available for planning.

If the process of selecting and defining the conditions that a system seeks to establish in its primary schools is to produce meaningful changes in education, it requires the following:

- A sustained commitment by national government leadership to increasing equality of access to and support for education;
- The involvement of relevant policy-makers, education managers, and teachers and parents (or their representatives) in the planning process;
- An explicit knowledge of the current conditions in schools, both their physical state and their operation (therefore, the need for a qualitative situation analysis);
- A potential for additional resources and energy that can be directed to changing the schools.

These enabling conditions are in descending order of importance. Without the political will of the government to want to improve the education of children, successful changes in what goes on in schools will be all but impossible. If education managers, teachers and parents do not contribute to deciding what the changes should be, it is also highly unlikely that schools will improve what they do very much, especially since their rich understanding of the schools and the context surrounding them will not be utilized. Finally, if new resources are available, they will provide added stimulus to the changes that can be provoked by the other three conditions.

The conceptual framework has been applied to planning in a few countries. For example, in early 1992, as part of the preparations for an expected World Bank loan, about thirty senior Zimbabwean educators spent four days identifying the effectiveness factors they wanted to establish in Zimbabwean primary and secondary schools. The participants included the country's eighteen Assistant Regional Directors of the Ministry of Education and representatives from the teachers' union, the school heads' association, teacher training colleges, and the planning, supervisory, and curriculum units in the ministry. They were assisted by educators from Overseas Development Administration (ODA), the British Council, and the World Bank. During the first day, they discussed the goals of Zimbabwean education and the means at their disposal for reaching those goals. On the second day, everyone traveled to a rural area and visited either two primary or two secondary schools (one in the morning, one in the afternoon) in order to create a shared experience in deprived Zimbabwean schools. The last two days were used for working groups to develop lists of the conditions they wanted to establish in Zimbabwean schools. The conditions sought were categorized under five

headings: Buildings, Resources, Staff, Learning, and Management. The results of this exercise are presented in Annex 2.

The level of specificity and the practicality of these conditions for Zimbabwe are striking. For buildings they include "a store room or cupboard for each classroom" and "clean water supply within 500 meters of the school," realistic expectations given the current condition and location of rural primary schools. Students should have "one textbook between two children in each subject," "exercise books at the rate of one per subject per child," and "one pen, pencil and ruler per child," and their work in English should include at least two hours of reading and one hour of oral language work per week and, in mathematics, daily written exercises. Students should be evaluated in some manner at least once per fortnight. In order to support these in-school learning processes, the group identified in-service teacher training and supervision expectations that would be feasible *if modest additional operational funding were available*. In arriving at this list, participants continually referred to resource constraints and current operating habits as they debated the inclusion or non-inclusion of certain conditions and the amount (one chair, a textbook for two children) or frequency (daily, once a fortnight) assigned to those conditions they did include. In the discussions, they were actively balancing the ideal with the realities of their education system as they set objectives for the future.

The Zimbabwe exercise responded well to the conditions of involving relevant educational personnel, and it took into account the realities of current resources and the prospect of a loan from the World Bank. Unhappily, after the workshop, the government of Zimbabwe decided not to go forward with a loan application — the political will outside the education sector was inadequate to see this change process through at that time. While the planning process in Zimbabwe has been very economical in its demands on time and resources, it remains a moot point whether it can contribute to improving schools there. Since then, similar exercises, though with varying purposes, have been conducted successfully with Ministry of Education officials in Uganda, with a research team for the Ministry of National Education in Madagascar, and with a group of Kenyan primary school teachers.

Other approaches can be envisioned that would be more elaborate, and perhaps more effective. For example, in a more openly demanding political environment, the planning process could involve local groups of teachers and community members in discussing what conditions would be most desirable for the schools. Many groups could undertake the kind of exercise that the senior Zimbabwean educators did, and the results could then be tabulated and analyzed to take the broader constituency's opinions into account. Similarly, an open-ended survey of school-level needs could be designed and applied, and the results could be used as inputs by educational leaders and planners in defining the conditions to be sought in their primary schools.

If an education system has determined those conditions it wants to work on to improve in its schools and has set targets for amounts and frequencies, the next stage is to establish what change processes will be most effective in bringing about the desired changes *at the school level*. In Zimbabwe, this next step began with discussions amongst senior officials in the Ministry of Education. With a consultant's help, they outlined a program that would use existing Inspectors as facilitators of whole-school-staff change teams and annually programmed regional budgets for school improvement activities. Further preparations were stopped when the government decided not to seek outside funding for educational development.

The planning mechanisms that are used to design an implementation plan to create the desired school-level conditions must produce a plan that satisfies a number of requirements. First, the plan must facilitate increases in teachers', parents' and system managers' understanding of and commitment to the changes. Second, the plan must include the design of an effective and feasible system for supportively managing the changes. And, third, the plan must identify the kinds of inputs that will be needed *at*

the school level if the quality of the school is to improve. The emphasis needs to be on creating the conditions that will allow the people associated with individual schools to bring about the school conditions that the system has decided to pursue. This means paying more attention to the schools' capabilities and to the processes of implementation and less to the exact specification of each of the system-level inputs required. For example, current change efforts in primary education in Sub-Saharan Africa frequently emphasize improvements in the design and delivery of learning materials and include specifications for the design, content, and duration of in-service teacher training activities. A school-focused project might replace these system-led activities with less-structured plans for integrated processes that would help school staffs to define their own training needs around materials that they are expected to use or that they may create themselves. This school-based focus was central to the Zimbabwean design.

The planning of the concrete conditions that a system wants to create in its schools must start with the system's definition of these conditions *at the school level*. If these school conditions — inputs, climate, and teaching/learning processes — are operationally defined and agreed upon beforehand, planning will focus on their creation no matter who participates and no matter how much or how little time and resources are invested in preparations for improving the quality of schooling. The resulting projects and programs will be more effective because the design of implementation processes will be forced to respond directly to these school-level objectives.

4

Using the Conceptual Framework for Situation Analyses and Sector Work on the Quality of Primary Education

Most assessments of the quality of primary education in Sub-Saharan Africa have relied mainly on quantitative analyses of a system's current performance. System-wide statistics are used to create indicators such as student/teacher and student/textbook ratios to show how well the system is doing. In fact, these indicators just indicate how well-endowed the system is. Often, examinations of system quality rely on student achievement data, comparing test scores to the indicators to determine which student and teacher variables are most closely linked to student achievement (Fuller 1986; Lockheed and Verspoor 1991; Ross and Postlethwaite 1992). There is very little, if any, effort to explore the qualitative dynamics of the interaction among the conditions within schools. Consequently, researchers often make general recommendations about program design based on a sterile assessment of what the numbers say. These generalizations can over-simplify decisions about reform. For example, there is strong research evidence that the presence of textbooks affects school achievement positively. However, the dynamics and efficacy of book use in schools is not well understood. For educational reform and program design to be successful, these quantitative analyses need to be enriched by systematic qualitative information on the dynamics within the schools.

In industrial countries, there is a strong research base on school effectiveness and school improvement, the former literature looking at the factors that influence student outcomes and the latter at the processes that help schools become more effective. Studies over the last two decades in the United States, Great Britain, the Netherlands, and Scandinavia have developed and refined qualitative methodologies for assessing how change occurs in schools and determining what school-level factors produce improvements in educational quality. In the last five years, one set of related studies has been conducted in Bangladesh, Colombia, and Ethiopia (Dalin and others 1992) using qualitative methodologies developed in industrial countries (Miles and Huberman 1984; and Huberman and Miles 1984); other more quantitative research has been done in Burundi, Thailand, Pakistan, and Zimbabwe (see bibliography); and the International Institute of Educational Planning has turned its attention to assessing school effectiveness (Carron and Chau, draft; Ross and Postlethwaite 1992).

The formulation of the conceptual framework of factors that determine school effectiveness has drawn significantly from the type of work noted previously. In particular, we have drawn on the development of a "structured case study" methodology to develop an approach for looking at African primary schools using the framework (Miles 1990). A pilot application of this methodology is currently underway in Madagascar.

The methodology for a detailed examination of school processes comprises a series of visits to individual schools in order to build an information base about the enabling conditions, school climate, and teaching/learning processes that characterize the system. The sample size may be small, given the intensity of the methods used, and generalizations need to be tempered by how many and what kind of schools are studied. Since the samples will be very small, the schools selected should reflect the main contrasting situations in order to illustrate differences. Each visit to a school, except the last, is followed by data-coding and processing, preliminary analyses of the data and planning for

the next visit. The process, in outline, is as follows:

(i) Establishment of a field team of "Traveling Observers" (TOs) to conduct the studies, to include predominantly people with strong teaching experience, *not* necessarily formal research training.

(ii) Selection by the field team, in consultation with the decision-makers in their system, of the factors from the conceptual framework that experience suggests are (a) most important in the education system concerned, and (b) most amenable to change within the existing context.

(iii) Further revision and refinement of the selected definitions and indicators to fit the education system to be studied.

(iv) Once the effectiveness factors of schools to be studied have been selected and revised, the team of TOs will plan in detail the methods for collecting, coding, and structuring information on these factors.

(v) Using the materials prepared, the TOs should visit the schools in their sample three times for two to three days each visit, preferably in pairs. During the visits, the TOs will take notes, *not* complete questionnaires, and, in the evenings, begin to code their notes according to how they relate to each of the factors.

(vi) After the first and second visits, the teams will finalize the coding of their notes, transfer the information to summary formats for discussion and analysis, and begin to formulate hypotheses about what the data says are critical conditions in the schools. Based on the analysis after each visit, gaps in the data will be identified and noted as points to focus on during the next visit.

(vii) After the third visit, the TOs will write a profile for each school, organized according to the factors of effectiveness that were selected for study (and, when possible, discuss the profile with the school staff). The TOs will finally combine the individual school case studies to draw conclusions about the problems and possibilities for improvement that exist *at the school level* in the system that has been studied.

(viii) An initial application of this methodology is underway in Madagascar. Annex 3 presents the materials, in French, that have been produced for the research there. First, using a draft profile of student learning objectives by the end of grade 5, the research team prepared a summary of the primary schools' goals and objectives (Annex 3.1). Using these objectives as projected outputs from the system, factors that determine these outcomes were identified using the research team's own experience and the definitions and indicators presented in this report (Annex 3.1), and the team identified indicators for each factor to look for during the fieldwork. Six teams of two researchers have now spent three days in each of six primary and secondary schools for a full sample of thirty-six schools. The processing of their notes has begun and case studies will be written on all thirty-six schools according to a general outline (Annex 3). The data processing consists of coding each entry in each researcher's notes according to the factor it refers to, entering all the notes for a factor on a summary table, summarizing those notes on the table, and then drawing a conclusion about that factor's current state in that school (Annex 3). Once all the factors are analyzed for a school, a short case study on the school will be written. Afterwards, a meta-analysis of all the case studies will be done to see what conclusions can be drawn about the factors studied in this sample of schools. After the substantive work has been completed in Madagascar, a report on this methodology will be prepared.

5

Using the Conceptual Framework for the Monitoring and Evaluation of Educational Reforms

The conceptual framework provides a starting point for monitoring and evaluating education systems over time. Using the methodologies outlined in Chapter 3 and 4, education managers, planners and researchers can select factors they consider important and keep track of their dynamics in schools. Information on individual schools can be collected and used by supervisors and inspectors, school by school, to help provide feedback on their operation, or the data can be aggregated by system evaluators to obtain a representative picture of school functioning throughout the system. When combined with other tools for assessing school performance such as national assessments, production function research, and more formal classroom observation research, the material here can add a significant qualitative dimension for understanding the locally-defined "cultural meaning" of different mixes of school factors (Fuller and Clark, n.d.). The purpose of different monitoring and evaluation activities will determine the time, resources and methodological rigor required to carry them out effectively.

At the simplest level, the framework can help school inspectors and "conseillers pedagogiques" order their comments on regular school visits, as it did for the brief visit to the Malagasy primary school that is reported in Annex 4. If the staff of that school had known what conditions in their school were considered important, and what the level of provision expected by the government was, the observations that were made could have provided the basis for a discussion with them about their areas of strength and those areas that needed improvement. As long as the methodology is simple and informal, school supervisors can use it to assess what is going on with respect to different conditions in a school. Such an approach could reduce the current emphasis on monitoring administrative matters that characterizes most African inspectors' school visits, when they occur.

The definitions and indicators have also been used by the Federal Department of Inspectorate Services in Nigeria to assess the quality of 200 "good" Nigerian secondary schools. A fifty-two-item questionnaire was developed based on sixteen variables identified and defined using the conceptual framework. Inspectors were then trained to administer the questionnaires; they were used on a trial basis; and data was collected from a sample of the 155 state schools considered the best by state departments of Education and from all 46 Federal secondary schools. By defining quality in operational terms before conducting these inspections the study found that most of the schools did not measure up to the criteria. The final report (Federal Inspectorate Services 1993) describes their findings and suggests actions by the government.

The conceptual framework can also be used to guide the monitoring and evaluation of a reform program or project that is under implementation. If this is to be done, a Monitoring and Evaluation Unit should be established, or the services contracted with a higher education institution. This unit will need to establish quantitative and qualitative means to keep track of project implementation, *including periodic visits to selected schools to monitor the change process*. The field methods already outlined can be used to structure this data collection, processing and analysis. Over time, the level of implementation and changes in school operations with respect to indicators of effectiveness should be observable. When

problems are found, corrective actions can be taken. For example, in a project that was introducing textbooks into primary schools that had been without them for years, questions on implementation could include: Did the books arrive at the school? How many arrived? Do the teachers use them? How? What impact have the books had on school climate and the teaching/learning process? At the same time, in this example and taking items from the indicators in the conceptual framework, monitoring visits could establish if the presence of textbooks has changed the number and quality of assignments given to students (both for work at school and as homework), the teachers' sense of being able to teach effectively, the students' reports of their perceptions of their teachers' commitment and caring, the frequency with which school heads review pupil performance, and the amount of preparation and collaboration in which teachers engage.

Both of the forms of school monitoring and evaluation that have been described do not look directly at pupil achievement. Instead, they seek to assess the presence and dynamics of conditions that have been identified as conducive to effective education. While supervisors and change agents should focus on creating the desired conditions, process-oriented monitoring and evaluation is not sufficient to determine whether change is successful. In addition to being helpful in observing and guiding improvements in school conditions, the conceptual framework can also be used to design and conduct evaluations of pupil performance. To do this, a more formalized research design is needed than in the other approaches to monitoring and evaluation, one that links changes in the indicators to changes in pupil performance. This kind of evaluation could find out whether, in a given system, schools with a higher rating on the desired effectiveness factors perform better than schools with a lower rating and whether, when changes have occurred, the schools that develop the desired characteristics produce better learning outcomes than they did before. Of course, in order to understand how much learning is provided by the school, researchers must be careful that the evaluation pays attention to the characteristics of the students and their home environments.

One approach to the evaluation of outcomes that has gained acceptance in the last few years is a National Assessment. In a National Assessment, sampling frames are used to compare school and system characteristics with student achievement scores to see how the system is doing and which characteristics account for differences in performance. There is a growing literature on the methodologies used and results obtained in National Assessments (Lockheed and Larach 1993), but these guidelines do not try to summarize them.

The purposes of research on outcomes using the conceptual framework resemble those of the research that was drawn on to develop the conceptual framework in the first place. Through such studies, to be undertaken by trained researchers, the choices about what conditions to create in schools will be confirmed, explained more fully, or questioned and perhaps denied. In the meantime, these guidelines are meant to help education practitioners use what is already known to understand, plan, and implement higher quality primary education programs in Sub-Saharan Africa. As more knowledge about the significance of factors in Sub-Saharan Africa becomes available through research that considers student outcomes, the current set of school effectiveness factors, definitions and indicators in the conceptual framework will undoubtedly need to be revised.

6

Conclusion

The genesis of the preparation of these guidelines was the recognition that current efforts to improve the quality and effectiveness of primary education in Sub-Saharan Africa are not successful. At the same time, one is struck by the resilience of African education systems in the face of tremendous resource deprivation and by the suggestion from research on school effectiveness and school improvement in the industrial world that school quality is not primarily an issue of resource availability. Perhaps even under the conditions experienced by most African primary schools, significant improvements in the quality of schooling can be made with modest increases in resources.

These guidelines have a number of strengths. They have been built on the experience that exists globally, as illustrated by the research literature that is listed in the bibliography. They have been tempered informally by the experience in Africa of the team that has formulated them. The materials seek to be comprehensive, and they have been organized and written to be accessible to all educators. Within the limited exposure that the definitions and indicators of effectiveness have had, the perception is that they reflect these strengths, though when applied in a specific context, the validity of selected indicators as significant contributors to student outcomes remains a matter of judgement informed by formal and personal empirical evidence.

At the same time, formulation of the factors that characterize effective primary schools in Africa as suggested by these guidelines has important weaknesses that those who use them must recognize. Stated as rhetorical questions, there are two principal issues that define this approach's weaknesses. First, how applicable to Sub-Saharan Africa can a set of conditions for effective schools be that are derived mainly from experience in industrial countries? Second, how valid are the definitions as a guide for planning in Sub-Saharan Africa when even in the industrial countries the knowledge summarized here about school effectiveness is seldom applied?

It is precisely because of the complexity of applying these materials to an education system that the guidelines have stressed their local adaptation. The usefulness of the definitions and indicators depends on how the people in a given education system relate them to each other and on how these people use them. Planners and policy-makers must involve teachers, school heads and supervisors in the application of the definitions and indicators to any education system. Also, there must be a continuing critical dialogue about their validity and applicability to the system's primary schools. Using the experience and knowledge of the people who work in and seek to improve the quality of their primary schools, the framework presented here may lead to improvements in school effectiveness.

There is evidence that these materials can be critically adapted to given settings. As the drafts of the factors, definitions and indicators were discussed with African and other educators, debate over them usually flared almost immediately. This discussion is as it should be if the selected factors are to be made relevant to local contexts and individuals' own experiences. These guidelines are intended to provoke such thoughtfulness among policy-makers, planners, teachers, school heads, and other educators in Sub-Saharan Africa, to help them organize their experience so that they can design more effective ways to educate Africa's young people.

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Annex 1: Factors That Determine School Effectiveness

Table 1.1 Supporting Inputs: Parent and Community Support

Parent and Community Support	
Definition: Parent and Community Support is effective when: 1. The child comes to school healthy and prepared to learn. 2. Parents and the community provide financial and/or material support for the school's operation. 3. There is frequent communication between school staff and parents. 4. Community members and parents assist with instruction. 5. The community has a role, with meaningful authority, in school governance.	
Requirements	**Indicators**
1. Health and learning preparedness	a. Protein-energy malnutrition, hunger, and micro-nutrient deficiencies are not problematic among school children. b. illness, parasite loads and hearing and vision impairments are not problematic among school children. c. The quality of the program and the numbers of children involved in local formal pre-school programs are high. d. There is evidence of reading, conversations, and directed play in the home.
2. Financial and/or material support	a. Significant monetary or in-kind contributions (e.g. building materials, land, food for teachers) beyond fees prescribed by government are evident. b. Significant labor for site preparation, building construction, and building materials is evident.
3. Frequent communication between school staff and parents.	a. School-public events and parent-teacher conferences are frequent and of high quality. b. Communications to parents by the school staff are frequent and meaningful. c. Positive parent-initiated contacts with school staff are frequent.
4. Assistance with instruction by community members and parents	a. Parents and the community frequently serve as tutors, information resources and/or an audience for student academic work. b. Parents support the idea of homework and monitor it.
5. Community role in school governance	a. The role, functions, and authority of the local oversight committee/board are clear and agreed-upon. b. The committee/board meet frequently and make meaningful decisions.

Table 1.2 Supporting Inputs: Effective Support from the Education System

Effective Support from the Education System	
Definition: Support to individual schools by the education system is effective when: 1. The system delegates authority and responsibility for improvement to the schools themselves. 2. The system communicates expectations (exerts pressure) for successful academic results. 3. The system provides services to the schools that help them succeed. 4. The system monitors and evaluates schools' academic performances and their improvement efforts.	
Requirements	**Indicators**
1. Delegation of authority and responsibility	a. The system has a clearly defined policy that delegates to the school the authority for deciding school schedules, needed equipment and materials, schemes of work, and preferred teaching methods.
2. Communication of expectations	a. The system has set performance standards in terms of student competencies. b. The system has defined the criteria that determine a school's effectiveness. c. Educational leaders above the school level communicate frequently and publicly a goal of excellence for the school.
3. Provision of services	a. School supervisors inform school staff of promising instructional practices and assist staff in trying them out. b. The system provides continuing advice and training for school managers and teachers. c. The system provides the resources needed to achieve instructional goals. d. The system protects the school from political turbulence.
4. Monitoring and evaluation	a. School heads are evaluated regularly, focussing on their role as instructional managers. b. The system assesses each school's academic performance and its change efforts and both recognizes successes and provides support to overcome weaknesses.

Table 1.3 Supporting Inputs: Adequate Material Support

Adequate Material Support	
Definition: Material support for a school is adequate for effectiveness when: 1. Textbooks and other reading materials in an appropriate language with relevant contents are available in sufficient quantity for all children to use them. 2. Teachers have guides that outline what to teach and how to teach it and that provide diagnostic and evaluation materials to use with students. 3. Students have sufficient paper and implements to adequately practice what is taught. 4. The school has enough classrooms to accommodate classes of teachable size. 5. Classrooms are equipped with blackboards and chalk, enough desks to seat all the children, and visual aids that support instruction.	
Requirements	Indicators
1. Textbooks and other reading material	a. All children can identify their textbook (even if shared) and accurately describe its contents. b. All children can name other reading material, know where to find this and can name the last thing they read.
2. Teacher guides	a. All teachers can show someone the Teachers' Guide that they use and explain how they use it. b. The Teachers' Guide contains material on subject matter, how to teach it, and means of evaluation.
3. Paper and writing implements	a. Children have with them a notebook (or notebook sections) for each subject and an effective writing implement.
4. Classrooms	a. All classrooms accommodate comfortably class sizes at the government norms, and there are enough classrooms to accommodate all enrolled students for these class sizes.
5. Classroom equipment	a. There is a usable blackboard and sufficient chalk. b. There are enough desk places so that all students enrolled in the class have a place.

Table 2.1 Enabling Conditions: Effective Leadership

Effective Leadership	
Definition: Effective leadership exits in a school when: 1. The Head sees that the resources are available to provide adequate support to teachers, sufficient learning materials, and an adequate and well-maintained learning facility. 2. The Head actively pursues high instructional standards by: a. clearly and frequently stating in concrete terms the school's mission, curricular goals and expected teaching behaviors. b. clearly and frequently expressing high expectations of pupils and the school's focus on learning as its central purpose. c. coordinating and managing the learning process. 3. The Head communicates regularly and effectively with teachers, with parents and others in the community. 4. The Head maintains high visibility and accessibility to pupils, teachers, parents and others in the community.	
Requirements	Indicators
1. Necessary resources are available	a. Teachers have adequate compensation in whatever form, to concentrate on teaching. b. Teachers and pupils have adequate materials (textbooks, paper, pencils, chalk, supplementary materials and equipment) to be able to vary teaching methods. c. Class size and classrooms correspond to government mandated norms. d. School buildings and grounds are maintained attractively and water is available.
2. High instructional standards are pursued	a. The Head's conversations and presentations regularly refer to confidence in student abilities and to learning. b. The Head can describe the school's curricular goals and the classroom behaviors that he/she believes constitute good teaching. c. There are minimal disruptions to learning time (e.g. administrative assemblies, long recesses, and teacher tardiness to class and absenteeism). d. The Head and Deputy Head/s frequently visit classrooms and hold development conferences with teachers. e. The Head frequently reviews pupil performance (by level, and by subject). f. The Head frequently reviews teachers, and their curriculum programs.
3. Regular and effective communication with teachers, parents and the community	a. Staff meetings are frequent and productive. b. Communication with teachers is frequent and constructive. c. School public events are frequent and productive. d. The Head's involvement in community activities outside the school is frequent and constructive.
4. High visibility and accessibility	a. The Head's involvement in community activities outside the school is frequent and constructive. b. The Head's interaction with individual pupils and school assemblies is frequent and constructive. c. The Head is informally available in the school outside his/her office. d. Parent-initiated contact with the Head is frequent and constructive.

Table 2.2 Enabling Conditions: A Capable Teaching Force

A Capable Teaching Force	
Definition: The teachers in a school are considered capable when:	
1.	They have mastery of the material they are teaching (knowledge).
2.	They have taught for a few years (experience).
3.	The majority of them have taught together in the school for some time (stability).
4.	The majority of them are full-time teachers (full-time). Full-time teachers are those who spend every school day working a complete teaching load.
Requirements	**Indicators**
1. Knowledge	a. All teachers have at least completed secondary school. b. All teachers can demonstrate subject mastery on the material they teach, (e.g. they would receive a high score on a test based on the material they teach).
2. Experience	a. The majority of teachers have taught for more than one year.
3. Stability	a. There is a low teacher turnover rate from year to year.
4. Full-time	a. Most of the teachers are present at the school for the full school day and teach most of that time.

Table 2.3 Enabling Conditions: Flexibility and Autonomy

Flexibility and Autonomy	
Definition: A school has sufficient flexibility and autonomy to be effective when: 1. The staff in the school can determine the specifics of how school time and resources are used to increase academic performance. 2. The school is able to draw on various constituencies for resources.	
Requirements	Indicators
1. Cooperative decision-making by the Head and teachers for specific school processes.	a. The School Head and teachers can identify decisions they have made regarding timetabling, how textbooks and other materials are used, student assessment techniques, and other school processes (teacher development, extra-curricular activities, etc.)
2. Independence to acquire and distribute resources according to the school's decisions.	a. The School Head is able to demonstrate that the inputs which are acquired from the government, the community, and the parents are allocated according to the school's assessment of its educational needs.

Table 2.4 Enabling Conditions: High Time-In-School

High Time-In-School	
Definition: Educational effectiveness is made more possible when students spend more days per year in school and are actively engaged in longer daily school hours.	
Requirements	**Indicators**
1. The established number of days and hours per day are high.	a. The number of days in the school year and the hours per day are high and equivalent to those of other productive educational systems.
2. The school is in session and operating for the established number of days and hours per day.	a. The school is in session and operating for the established number of days and hours per day.

Table 3.1 School Climate: High Expectations of Students

High Expectations of Students	
Definition: High expectations of students exist in a school when: 1. There is a clear schoolwide set of academic and social behavior goals which are continuously monitored. 2. The School Head and teachers communicate to students and their parents that they expect the students to work hard and to excel academically. 3. There are many opportunities for students to take responsibility. 4. Past student achievement levels confirm that they achieve high standards of performance.	
Requirements	**Indicators**
1. Clear academic and social behavior goals	a. The Head and teachers can describe the goals to others and do so frequently to students and parents. b. The Head and teachers regularly monitor progress of students towards these goals.
2. Communication of expectations	a. Assignments given to students are in sufficient amount and at an appropriate level of difficulty to consolidate and extend student capabilities. b. Teachers' expressions of confidence in students' abilities are frequent and appropriate.
3. Opportunities for student responsibility	a. Responsibilities are frequently given to students for school activities, discipline, room and board (at boarding schools), tutoring, and fund-raising. b. Students perform well in the responsibilities delegated to them.
4. Past achievement levels	a. The school's recent historical academic record favorably compares to the national averages.

Table 3.2 School Climate: Positive Teacher Attitudes

Positive Teacher Attitudes	
Definition: Positive teacher attitudes exist when: 1. Teachers have confidence in their ability to teach. 2. Teachers are committed to teaching and care about their students. 3. Teachers cooperate in efforts to improve the school and to help each other with instructional problems.	
Requirements	**Indicators**
1. Confidence	a. Teachers exhibit and report their own sense of being able to teach successfully. b. Teachers are at ease with learning materials and teaching ideas and integrate them into their teaching.
2. Commitment and caring	a. Most students report that teachers are committed to teaching and care about them (the students) personally. b. Teachers set high standards of work and behavior and model these themselves. c. Teachers, administrators and parents report that the school is a caring place. d. There is low teacher absenteeism and tardiness.
3. Cooperation	a. Teachers plan school activities and their teaching collaboratively. b. Teachers share ideas with each other. c. Teachers and administrators work together on whole-school issues.

Table 3.3 School Climate: Order and Discipline

Order and Discipline	
Definition: Order and discipline are evident in an effective school when: 1. Classrooms and classes are well-organized. 2. School rules and regulations are clearly articulated, are agreed upon by both teachers and students, and are equitably maintained.	
Requirements	**Indicator**
1. Well-organized classrooms and classes	a. Seating arrangements are uncongested. b. External noise levels and lighting are conducive to learning. c. Classroom routines are smooth and efficient: (i) classes start quickly and purposefully; (ii) class rules and procedures are clear and are followed; (iii) assignments, materials and supplies are ready before class; (iv) consistent, equitable discipline is applied quickly and without disruption for all students; (v) positive behavior is reinforced; and (vi) teachers handle almost all disciplinary problems.
2. School rules and regulations	a. A written code of conduct exists and is known by students and staff. b. Discipline procedures are routine, quick and focus on the student's behavior. c. Students and teachers attend classes regularly and according to an established timetable. d. There is almost no evidence of inappropriate behavior and school facilities are clean and not defaced.

Table 3.4 School Climate: Organized Curriculum

Organized Curriculum	
Definition: A curriculum is well-organized when: 1. The school emphasizes the acquisition of basic skills. 2. The school defines learning objectives that are matched to identified teaching strategies, available materials, and an integrated sequence of topics across the grade levels. 3. The available learning resources allow teachers to adapt the curriculum to their students' needs and to produce local teaching-learning materials.	
Requirements	**Indicators**
1. Acquisition of basic skills	a. Teachers can identify basic skills in each subject and demonstrate how they ensure mastery of these skills by students. b. Students perform well on tests that major on basic skills, especially numeracy and literacy.
2. Systematic scheme of work	a. The school has a comprehensive written scheme of work that identifies learning objectives, and realistically-available materials, and all teachers can explain what they teach in terms of this scheme.
3. Learning resources	a. Materials, both provided and locally-prepared, identified in the scheme of work are available and used by teachers. b. Teachers prepare their own classroom materials (e.g. exercises, projects, quizzes on a regular basis).

Table 3.5 School Climate: Rewards and Incentives

Rewards and Incentives	
Definition: A school is using rewards and incentives when there is clearly-defined, public recognition for academic success in the school.	
Requirements	Indicators
1. Clear academic standards	a. Standards that define academic success are clear and known by all teachers and students.
2. Academic success is recognized	a. The school regularly uses symbols, ceremonies, and awards to officially recognize academic success.

Table 4.1 Teaching/Learning Process: High Learning Time

High Learning Time	
Definition: A school has high learning time* when: 1. The amount of school time used for learning is maximized. 2. Classroom learning time is used efficiently. * the amount of time a student spends on a learning activity during which he or she is achieving a high rate of success.	
Requirements	**Indicators**
1. Maximized school learning time	a. School events are scheduled to avoid disrupting learning time. b. Time-use allocation for subjects is clearly established and followed by teachers. c. School day and individual classes start and end on time. d. Extra learning time is provided for students who want or need it. e. There are firm and enforced policies regarding tardiness, absenteeism, and appropriate classroom behavior for both teachers and students. f. Students are achieving tasks assigned at a high rate of success.
2. Efficient use of classroom learning time	a. Non-instructional classroom time is minimal. b. Teachers maintain a brisk pace for instruction with clear stop and start clues, and quick introductions of topics. c. Teachers are aware of whole-class needs in pacing lessons, providing assistance to individuals, setting and supervising seatwork, and encouraging out-of-class work for those who need it. d. Teachers correct and return students' assignments and tests quickly.

Table 4.2 Teaching/Learning Process: Variety in Teaching Strategies

Variety in Teaching Strategies	
Definition: In effective schools, the teachers employ alternative teaching strategies to better accommodate student differences and the nature of the material being taught.	
Requirements	Indicators
1. Active engagement of students by the use of a variety of teaching techniques	a. Teachers use a variety of teaching techniques including individual assignments with worksheets, class discussion, group work, explaining, drill-and-practice, asking questions, and cross-age tutoring. b. When available, teachers make regular use of interactive radio and/or programmed materials. c. Students are actively engaged in the classroom activities.

Table 4.3 Teaching/Learning Process: Frequent Homework

Frequent Homework	
Definition: Homework is being used effectively when it is given more than once a week to Grades Four and above, completed by all the students, and checked and commented on to individual students by the teachers.	
Requirements	Indicators
1. Homework is assigned, completed and feedback provided.	a. Homework is assigned and done by students. Content and frequency of homework is appropriate to the age and home environment of the children. b. Teachers check and provide feedback to students on all homework that is done.

Table 4.4 Teaching/Learning Process: Frequent Student Assessment and Feedback

Frequent Student Assessment and Feedback	
Definition: Student assessment and feedback are effective when: 1. They occur regularly and in an integrated way at the classroom, school, and system levels. 2. The central purpose is to provide diagnostic feedback to students, teachers, and managers. 3. Feedback to students is immediate at the classroom level and continuous over time.	
Requirements	**Indicators**
1. Regular and integrated assessment and feedback.	a. The school and system have a clear schedule of performance, monitoring activities that check academic progress. b. Assessment of student performance at all levels match the learning objectives for the students being assessed. c. The school maintains records of individual students' performances using simple routines for collecting, storing, and reporting this information.
2. Assessment used for diagnostic purposes	a. Teachers and administrators use test results, grade reports, and attendance records to spot and respond to potential problems. b. This information is also used in period reviews of the school's curricular scheme of work.
3. Feedback is immediate and continuous	a. Teachers monitor student progress frequently through tests and quizzes, formal and informal interaction, and written and oral responses. b. Teachers provide immediate feedback on students' in-class responses and written work, mixing praise and constructive criticism equally.

Table 5.1 Student Outcomes: Participation

Participation	
Definition: A school is effective when student participation is high in terms of: 1. Attendance, 2. Continuation, and 3. Completion.	
Requirements	Indicators
1. Attendance	a. Daily attendance is high in all grades for both sexes throughout the school year.
2. Continuation	a. The number of repeating students in each grade level is low. b. The number of drop-outs from each class during the school year and between grades is low. c. The number of students continuing on to secondary school after successfully completing the highest grade is high.
3. Completion	a. The percentage of grade one entrants who successfully complete all grades is high.

Table 5.2 Student Outcomes: Academic Achievement

Academic Achievement	
Definition: A school is effective when a high percentage of the students who leave the school demonstrate: 1. An ability to read and write, 2. A facility with arithmetic, and 3. Skills in solving problems.	
Requirements	Indicators
1. Literacy	a. Most students perform well on standardized tests that measure the skills in arithmetic appropriate to their grade level
2. Numeracy	a. Most students perform well on standardized tests that measure the skills in arithmetic appropriate to their grade level.
3. Problem-solving skills	a. On standardized tests, most students demonstrate in higher-order thinking that are appropriate to their ages (e.g. Bloom's skills in comprehension, application, analysis, synthesis and evaluation).

Table 5.3 Student Outcomes: Social Skills

Social Skills	
Definition: A school is effective when the children who leave the school: 1. Express rational, empirical and egalitarian beliefs about how to function in society ("attitudinal modernity"); 2. Demonstrate that they know how to interact effectively with peers and adults. 3. Eventually become involved productively in the social and political life of their community and nation.	
Requirements	Indicators
1. Attitudinal modernity	a. The older students can express their beliefs intelligibly to adults. b. The older students score highly on tests based on their culture that measure modern attitudes.
2. Interpersonal effectiveness	a. The students demonstrate effective interpersonal skills with each other and with adults at school and outside the school.
3. Community involvement	a. Most of the school's alumni are involved in volunteer development activities. b. Most of the school's alumni participate in "democratic processes", including elections.

Table 5.4 Student Outcomes: Economic Success

Economic Success	
Definition: A school is effective when those who have completed its course of study: 1. Tend to earn more after leaving school than other people in the same age cohort, and 2. Show higher productivity in their work than others in their age cohort.	
Requirements	Indicators
1. Earnings	a. Income levels of graduates from the school are higher than (i) those of people of similar ages in the community who did not complete the school, and (ii) the national median income level for primary school graduates.
2. Productivity	a. The physical output of graduates from the school for a given amount of labor is higher than the estimated average output for people with a full primary education.

Definitions of Student Outcome Factors

5.1 Participation

A school is effective when student participation is high in terms of daily attendance, annual promotion, the percentage of entrants who graduate from primary school, and continuation to secondary school.

5.2 Academic Achievement

A school is effective when a high percentage of the students who leave the school demonstrate an ability to read and write, a facility with arithmetic, and skills in solving problems.

5.3 Social Skills

A school is effective when the children who leave the school express rational, empirical and egalitarian beliefs about how to function in society; demonstrate that they know how to interact effectively with peers and adults; and eventually become involved productively in the social and political life of their community and nation.

5.4 Economic Success

A school is effective when those who have completed its course of study show higher productivity in their work and consequently earn more than others in the same age cohort with similar background and academic achievement.

Annex 2: Indicators of Effective Primary Schools in Zimbabwe

At a conference in Gweru, Zimbabwe, in January 1992 about 30 senior Zimbabwean educators developed recommended performance indicators to be used in planning for and assessing the effectiveness of rural primary and secondary schools in Zimbabwe. The **indicators for primary schools**, divided between those that would constitute basic and full effectiveness, are presented below. Since being developed, these indicators have helped guide planning in the Zimbabwean Ministry of Education.

The indicators include the following:

BUILDINGS:

One classroom for each class.

A headteacher's study complete with strong-room, safe and storage room.

A staff room at least one classroom in size.

A store room or cupboard for each classroom.

A collection of teachers' reference books.

Teachers' housing as per government regulations.

Pupils' and teachers' ablutions according to regulations.

Clean water supply within 500 meters of school.

RESOURCES:

Pupils to have

- a desk space and seat each,
- one textbook between two children,
- exercise books at the rate of one per subject per child,
- stationery (one pen, pencil, ruler per child).

Each classroom to have

- a chalkboard with ruler, chalk, duster,
- display area (pinboard).

Each teacher to have

- a desk/table and chair,
- a dictionary,
- a syllabus and teacher's guide for each subject taught.

STAFF:

Current levels of qualification to be maintained.

One teacher per class

Headteachers to meet with their District Education Officer (DEO) and their Education Officer (EO) at least once per term.

Staff development entitlement for teachers to be at least

- one hour per week school-based,
- 2 hrs. per term zonally,
- 2 hrs. per term at circuit level for two teachers per school,
- Headteachers to have 2 hours per term.

LEARNING:

Each child's progress to be evaluated at least once per fortnight.

At least 50% pupil time to be in interactive learning (independent study, discussion, project work, problem-solving).

At least 50% pupil written work to be original work by pupil.

Each child to write at least

- one exercise per week in each language area and content subject,
- one exercise per day in language subjects (English, Shona, Ndebele).

Literacy and numeracy work to include

- reading for at least 2 hours per week,
- one hour per week oral work in language subjects,
- daily exercises in number work.

Remediation/extension work to be provided as provided by SPS circular.

MANAGEMENT:

Regional supervision to include satisfactory visits as follows:

- District Education Officer (DEO) to each school at least once annually,
- Education Officer (EO) at least 5 schools per circuit per year,
- district visits by DRD at least once annually.

Headteacher at each school who would effectively manage the school by :

- Ensuring the school conforms to government standards relating to the curriculum;
- Ensuring the organization of learning activities through

  - professional audit each term,
  - correct timetabling and deployment of staff,
  - weekly inspection of registers,
  - regular staff meetings (before term starts, mid-term and end of term),
  - departmental meetings (three per term),
  - supporting teachers' work through a) lesson observation twice a term and professional counselling, and b) weekly discussion of work-schemes and exercise books.

THE COMMUNITY

A School Development Council with composition, committees and regularity of meetings as per government regulations.

Each school to hold an annual Open Day, Speech & Prize day and a Consultation Day.

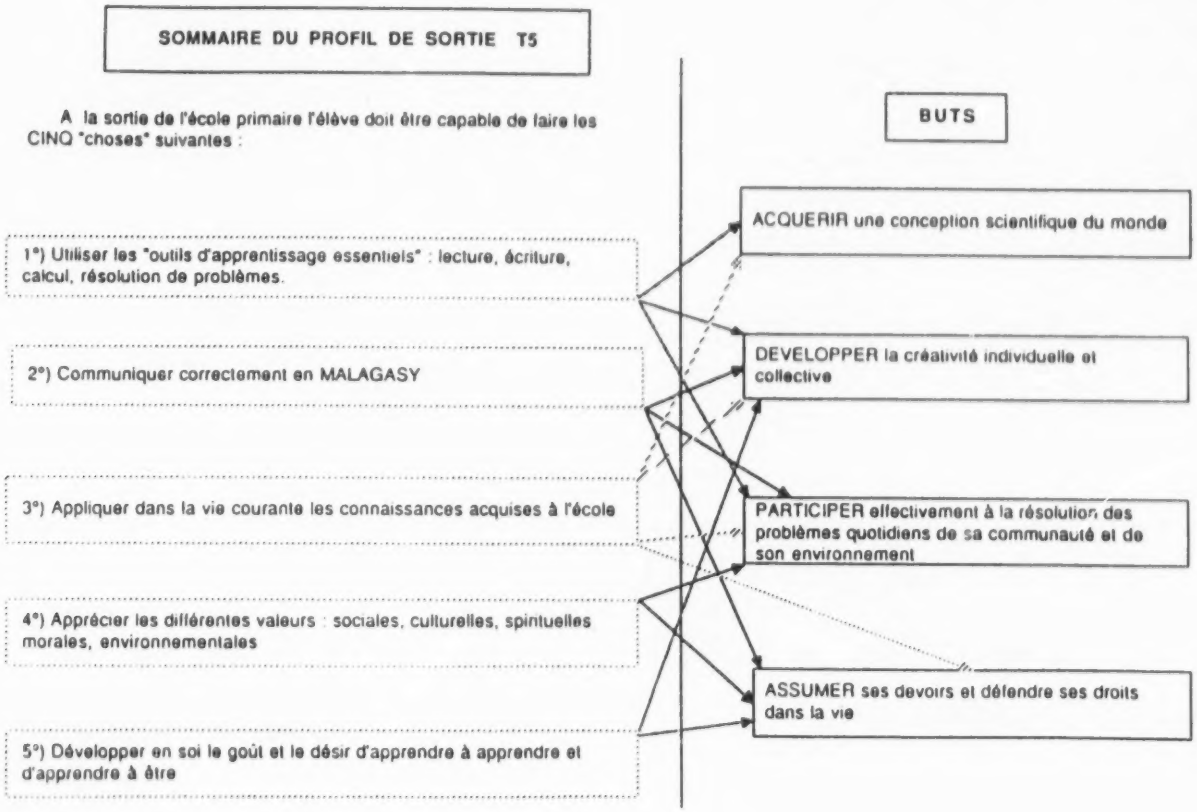
A Parent-Teacher consultation in each class once per term.

Annex 3: Materials for a Sector Study on the Quality of Primary and Secondary Education in Madagascar

Annex 3.1: Goals and Objectives

Etude sur l'Amélioration des Enseignements Primaire et Secondaire à Madagascar

SOMMAIRE DU PROFIL DE SORTIE (7ÈME ANNÉE)


SOMMAIRE DU PROFIL DE SORTIE T5
A la sortie de l'école primaire l'élève doit être capable de faire les CINQ "choses" suivantes :
1°) Utiliser les "outils d'apprentissage essentiels" : lecture, écriture, calcul, résolution de problèmes.
2°) Communiquer correctement en MALAGASY
3°) Appliquer dans la vie courante les connaissances acquises à l'école
4°) Apprécier les différentes valeurs : sociales, culturelles, spirituelles morales, environnementales
5°) Développer en soi le goût et le désir d'apprendre à apprendre et d'apprendre à être
BUTS
ACQUERIR une conception scientifique du monde
DEVELOPPER la créativité individuelle et collective
PARTICIPER effectivement à la résolution des problèmes quotidiens de sa communauté et de son environnement
ASSUMER ses devoirs et défendre ses droits dans la vie

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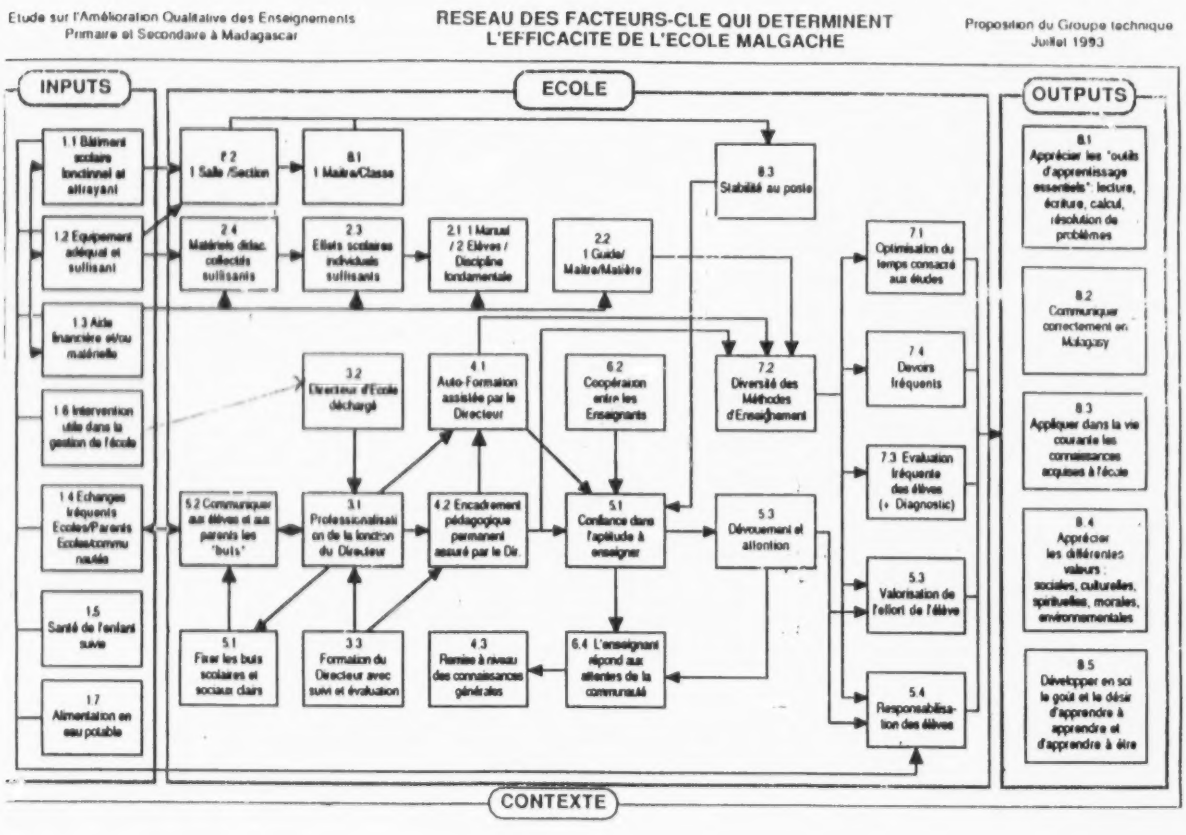
Annex 3.2: Réseau des facteurs-clé qui déterminent l'efficacité de l'école malgache

Etude sur l'Amélioration des Enseignements Primaire et Secondaire à Madagascar


Etude sur l'Amélioration Qualitative des Enseignements Primaire et Secondaire à Madagascar
RESEAU DES FACTEURS-CLE QUI DETERMINENT L'EFFICACITE DE L'ECOLE MALGACHE
Proposition du Groupe technique Juillet 1993
INPUTS
ECOLE
OUTPUTS
CONTEXTE
1.1 Bâtiment scolaire fonctionnel et attrayant
1.2 Equipement adéquat et suffisant
1.3 Aide financière et/ou matérielle
1.6 Intervention utile dans la gestion de l'école
1.4 Echanges fréquents Ecoles/Parents Ecoles/communauté
1.5 Santé de l'enfant suivie
1.7 Alimentation en eau potable
2.2 Salle /Section
2.4 Matériels didac. collectifs suffisants
8.1 Maître/Classe
2.3 Effets scolaires individuels suffisants
2.1.1 Manuel / 2 Elèves / Discipline fondamentale
2.2 1 Guide/ Maître/Matière
8.3 Stabilité au poste
3.2 Directeur d'Ecole déchargé
4.1 Auto-Formation assistée par le Directeur
6.2 Coopération entre les Enseignants
7.2 Diversité des Méthodes d'Enseignement
5.2 Communiquer aux élèves et aux parents les "buts"
3.1 Professionnalisation de la fonction du Directeur
4.2 Encadrement pédagogique permanent assuré par le Dir.
5.1 Confiance dans l'aptitude à enseigner
5.3 Dévouement et attention
5.1 Fixer les buts scolaires et sociaux clairs
3.3 Formation du Directeur avec suivi et évaluation
4.3 Remise à niveau des connaissances générales
6.4 L'enseignant répond aux attentes de la communauté
7.1 Optimisation du temps consacré aux études
7.4 Devoirs fréquents
7.3 Evaluation fréquente des élèves (+ Diagnostic)
5.3 Valorisation de l'effort de l'élève
5.4 Responsabilisation des élèves
8.1 Apprécier les "outils d'apprentissage essentiels": lecture, écriture, calcul, résolution de problèmes
8.2 Communiquer correctement en Malagasy
8.3 Appliquer dans la vie courante les connaissances acquises à l'école
8.4 Apprécier les différentes valeurs : sociales, culturelles, spirituelles, morales, environnementales
8.5 Développer en soi le goût et le désir d'apprendre à apprendre et d'apprendre à être

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Annex 3.3: Outline for a School Case Study

Etude sur l'Amélioration des Enseignements Primaire et Secondaire à Madagascar

Principle Research Questions that Guide the Case Studies

I. What school-level factors have the most influence on the effectiveness of primary and secondary schools in Madagascar?

II. What is the current reality (conditions) of these factors in schools, and how do they interact with each other in the school?

Outline

I. The Context
- A. A description of the community
  1. The size and distribution of the population
  2. Physical characteristics
  3. Socio-economic description of the population
- B. A general description of the school
  1. Age and location
  2. Size (number of teachers; number of students)
  3. Physical layout
  4. Current conditions (Facteurs 1.1 et 1.2)

II. Inputs to the school
- A. From the Government
- B. From the community (Facteurs 1.3—1.7)

III. School factors
- A. Leadership
  1. The Director of the School (Facteur 3)
  2. Expectations for Student performance (Facteur 5)
  3. Optimal Working Conditions (Facteur 8)
- B. The teachers
  1. Teacher competence (Facteur 4)
  2. Teacher attitudes (Facteur 6)
- C. Learning materials (Facteur 2)
- D. Teaching-Learning Processes (Facteur 7)

IV. School Results
- A. Participation (Facteur 9)
- B. Academic Results (Facteur 10)

V. Conclusions
- A. A summary of the key factors that affect this school's performance (selected from those identified in the analysis above)
- B. How these key factors relate to each other (Le réseau de facteurs qui explique la performance de cet école)

Annex 3.4 Format for Processing Qualitative Data on Factors That Influence School Effectiveness

Etude sur l'Amélioration des Enseignements Primaire et Secondaire à Madagascar

TRAITEMENT DE DONNÉES QUALITATIF

Nom de l'école: _____

Facteur: _____

Données brutes	Sommaire des points principaux	Conclusion(s) sur ce facteur

Annex 4: Profile of a Primary School in CISCO Antananarivo-Ville, Madagascar

(Based on a 1½ hour visit, October 28, 1992)

Perched on a hill on the outskirts of Tana, this school's original building dates back to before 1920. The original building has had rooms tacked on around it, and an additional building exists just above the original building. The school has two annexes at some distance that account for about half the children, but we did not visit these. All of the buildings we saw are in disrepair, and the youngest children are crowded into two small rooms for which the only light source is through the door and a shuttered opening next to it. The directress, an older women who has headed the school since the mid-eighties was lively, interested in education, and apparently on good terms with her staff. In the hour we were at the school, we observed the following:

Community Support: Very little sign of community support, other than Fmg 1500/year paid by parents; building in disrepair; one bench with four boys on it collapsed while we were in the room; joists in ceiling looked like they could collapse at any moment; because of the three locations, one can surmise that coordination of the parents' involvement and inputs would be difficult.

System Support: My province-level guide didn't know where this school (or any of the other three) were; I forgot to ask about supervisory visits; at the school, all teachers had the new teachers' guides, listing hours of meeting and subject matter by week in the term; teachers seemed familiar with this material; no one seemed to have participated in an in-service workshop recently, though I did not ask about this carefully.

Material Support: No one had textbooks; all had some notebooks, though I did not ask to count them; teachers had the new guides handy; I don't remember if the T1 and T2 children had slates; classroom space seemed adequate for upper three grades, not for first two which were in small rooms with light only through the door; directress said the roof leaked terribly; benches were rickety and didn't fill space in the larger rooms; some benches held four children, though they seemed to comfortably handle three; blackboards in good shape with swinging wings at each end.

Effective Leadership: The directress seemed to have her school under control; all teachers had written work on the board (one male teacher had all the material for all subjects up there for the day); when asked, she said she used the parents' money for teaching-related stuff; teachers had sufficient chalk and writing materials of their own; I didn't ask her how she transmits what seemed to me to be fairly uniform organizations of class materials and time by the teachers; no information on how and how often she communicates with the community; obvious friendly and comfortable relationship with the teachers.

A Capable Teaching Force: The three or four teachers that I asked all had some kind of certification (as the day went on I got confused by all the kinds of certification that are available); apparently, no new teachers; all seemed to have more than five years teaching experience and to have been at the school for some time; the directress has been there 15 years, but she's been head only for the last 5-7 years; all the teachers seemed to be full-time which means they teach all morning; no sign of supernumeraries (teachers assigned to the school but beyond the number needed for one teacher per class), though I forgot to ask about a couple people who were sitting in the office.

Flexibility and Autonomy: The timetable and scheme of work for each subject seem to be rigidly provided by the new guidebooks (each week is laid out according to this year's dates); I picked up no sign of other chosen activities that suggest the exercise of autonomy, though I doubt the government would intrude one way or the other. There is almost complete independence in the acquisition of resources — the school sets fee levels, determines whether and when individual families pay, and chooses how money is spent.

High Time-in-School: The school seemed to follow the prescribed schedule, though the head did waffle some about which of the two schedules in the guidebook they followed; I suspect there is some lag in getting started at the start of the morning, especially if, as she said, the head stops at one of the annexes first every morning.

High Expectations of Students: I found no sign of high expectations, but I didn't explicitly ask about expectations; my guide said the school had a reputation for less than average results.

Positive Teacher Attitudes: No teachers were absent; they all seemed to like the students and to respond to them as individuals, at least when teaching; standards set didn't seem very high; I didn't find out anything about cooperation among the teachers.

Order and Discipline: There were fairly uncongested seating arrangements, even though a few benches were crowded; the students all seemed very well-behaved; one class even sat with arms folded. All of the classes have a rehearsed French-language greeting for guests. As stated, one teacher had all his material for the day(s) on the blackboard; others also had pre-class material written on the board. There were no signs of a written school-wide code, but behavior patterns among classes were similar, suggesting that there is an informal behavior code. When we arrived, they were having recess, and it was noisy. Reported class sizes corresponded pretty much with the numbers that I counted in a couple classrooms, so I would not think that absenteeism is a problem.

Organized Curriculum: I didn't ask any teachers all day whether they could name the skills they were teaching; the comprehensive scheme of work is in the guide; I saw no sign that the school had made any attempt to enrich or adapt it specifically to their school.

Rewards and Incentives: No information.

High Learning Time: The male teacher seemed to have his time organized. Two other female teachers were teaching according to a plan, but it didn't seem that they had real concern for time; students got in their seats quickly from recess (when we arrived during recess, I thought that recess might be ongoing; perhaps it would have had we not arrived).

Variety in Teaching Strategies: The teaching methods I observed were (a) students copying the stuff on the blackboard; (b) the teacher presenting information; and (c) the teacher asking individual students to recite (there was lots of active hand-raising by children eager to participate, though some students were wrong and the teachers handled that supportively). The students seemed to be capable of patiently waiting for the teacher's attention (especially with us disrupting things), though when they were asked to participate, they did it with alacrity. All the students had 2 - 4 entries in their subject exercise books since school started two weeks ago, but only the T5 teacher had checked work in notebooks by giving scores and checks. She said she had to do this to get them ready for the examination this year.

Homework: There were no signs of homework. This is the second week of school.

Frequent Student Assessment and Feedback: When I asked the directress about in-class assessments, she said they were once every term; I suggested frequent short quizzes as a way for teachers to see how their classes are doing, and she seemed to think this was a novel idea.